

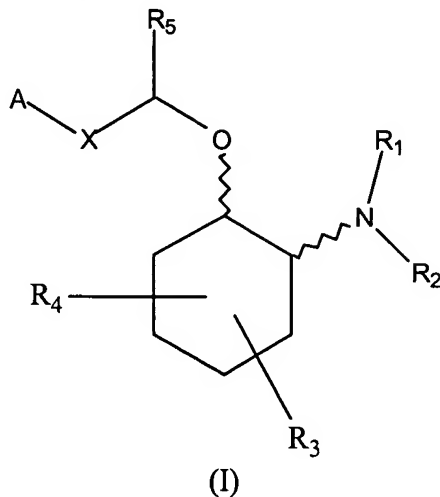
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-159. (Canceled)

160. (Currently Amended) A compound of formula (I), or a solvate or pharmaceutically acceptable salt thereof:



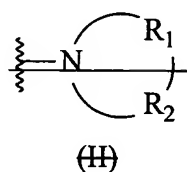
wherein, ~~independently at each occurrence,~~

X is selected from $-C(R_6, R_{14})-Y-$, and $-C(R_{13})=CH-$;

Y is selected from a direct bond, O, S, and C_1-C_4 alkylene;

R_{13} is selected from hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl, aryl, and benzyl;

R_1 and R_2 , ~~when~~ taken together with the nitrogen atom to which they are directly attached in formula (I) form a morpholinyl ring, ~~form a ring denoted by formula (II):~~



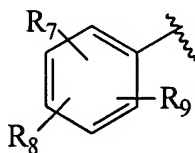
~~wherein the ring of formula (II) is formed from the nitrogen as shown as well as three to nine additional ring atoms independently selected from carbon, nitrogen, oxygen, and sulfur; where any two adjacent ring atoms may be joined together by single or double bonds, and where any one or more of the additional carbon ring atoms may be substituted with one or two substituents selected from hydrogen, hydroxy, C₁-C₃hydroxyalkyl, oxo, C₂-C₄acyl, C₁-C₃alkyl, C₂-C₄alkylcarboxy, C₁-C₃alkoxy, and C₁-C₂₀alkanoyloxy; or may be substituted to form a spiro five- or six-membered heterocyclic ring containing one or two heteroatoms selected from oxygen and sulfur; and any two adjacent additional carbon ring atoms may be fused to a C₃-C₈carbocyclic ring, and any one or more of the additional nitrogen ring atoms may be substituted with substituents selected from hydrogen, C₁-C₆alkyl, C₂-C₄acyl, C₂-C₄hydroxyalkyl and C₃-C₈alkoxyalkyl; or~~

~~R₁ and R₂, when taken together with the nitrogen atom to which they are directly attached in formula (I), may form a bicyclic ring system selected from 3-azabicyclo[3.2.2]nonan-3-yl, 2-azabicyclo[2.2.2]octan-2-yl, 3-azabicyclo[3.1.0]hexan-3-yl, and 3-azabicyclo[3.2.0]heptan-3-yl;~~

R₃ and R₄ are independently attached to the cyclohexane ring shown in formula (I) at the 3-, 4-, 5- or 6- positions and are independently selected from hydrogen, hydroxy, C₁-C₆alkyl, and C₁-C₆alkoxy;

R₅, R₆ and R₁₄ are independently selected from hydrogen, C₁-C₆alkyl, aryl and benzyl;

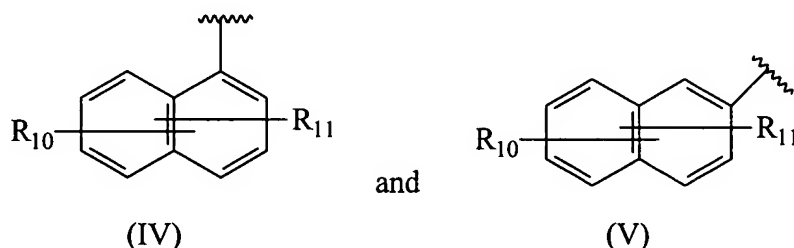
A is selected from C₅-C₁₂alkyl, a C₃-C₁₃carbocyclic ring, and ring systems selected from formulae (III), (IV), (V), (VI), (VII) and (VIII):



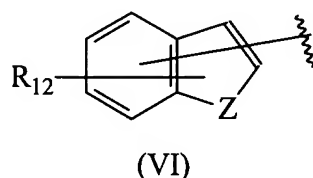
(III)

where R₇, R₈ and R₉ are independently selected from bromine, chlorine, fluorine, carboxy, hydrogen, hydroxy, hydroxymethyl, methanesulfonamido, nitro, sulfamyl, trifluoromethyl,

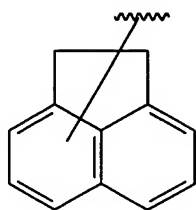
C₂-C₇alkanoyloxy, C₁-C₆alkyl, C₁-C₆alkoxy, C₂-C₇alkoxycarbonyl, C₁-C₆thioalkyl and N(R₁₅,R₁₆) where R₁₅ and R₁₆ are independently selected from hydrogen, acetyl, methanesulfonyl, and C₁-C₆alkyl;



where R₁₀ and R₁₁ are independently selected from bromine, chlorine, fluorine, carboxy, hydrogen, hydroxy, hydroxymethyl, methanesulfonamido, nitro, sulfamyl, trifluoromethyl, C₂-C₇alkanoyloxy, C₁-C₆alkyl, C₁-C₆alkoxy, C₂-C₇alkoxycarbonyl, C₁-C₆thioalkyl, and N(R₁₅,R₁₆) where R₁₅ and R₁₆ are independently selected from hydrogen, acetyl, methanesulfonyl, and C₁-C₆alkyl;

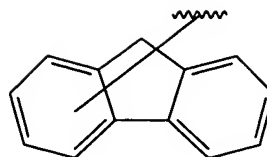


where R₁₂ is selected from bromine, chlorine, fluorine, carboxy, hydrogen, hydroxy, hydroxymethyl, methanesulfonamido, nitro, sulfamyl, trifluoromethyl, C₂-C₇alkanoyloxy, C₁-C₆alkyl, C₁-C₆alkoxy, C₂-C₇alkoxycarbonyl, C₁-C₆thioalkyl, and N(R₁₅,R₁₆) where R₁₅ and R₁₆ are independently selected from hydrogen, acetyl, methanesulfonyl, and C₁-C₆alkyl; and Z is selected from CH, CH₂, O, N and S, where Z may be directly bonded to "X" as shown in formula (I) when Z is CH or N, or Z may be directly bonded to R₁₇ when Z is N, and R₁₇ is selected from hydrogen, C₁-C₆alkyl, C₃-C₈cycloalkyl, aryl and benzyl;



(VII)

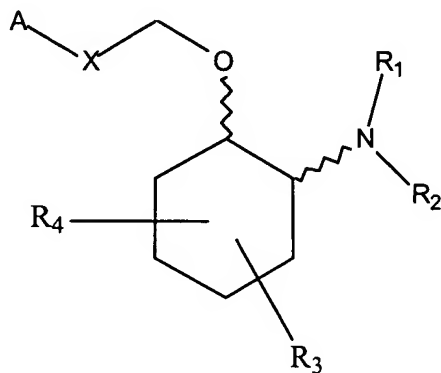
and



(VIII)

including isolated enantiomeric, diastereomeric and geometric isomers thereof, and mixtures thereof.

161. (Currently Amended) A compound according to claim 160 having formula (IX), or a solvate or pharmaceutically acceptable salt thereof:



(IX)

wherein, ~~independently at each occurrence;~~

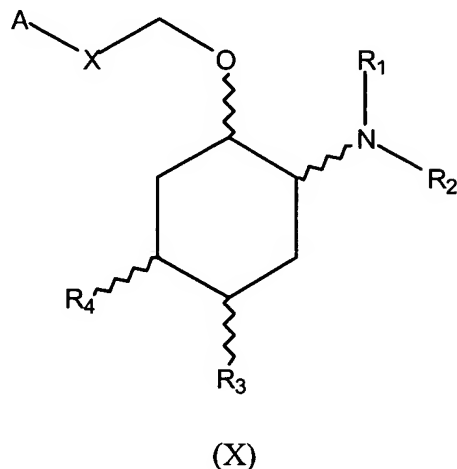
X is selected from $-C(R_6, R_{14})-Y-$, and $-C(R_{13})=CH-$;

Y is selected from a direct bond, O and S; and

R_1 , R_2 , R_3 , R_4 , R_6 , R_7 , R_8 , R_9 , R_{10} , R_{11} , R_{12} , R_{14} , A and Z are defined as in claim 160;

including isolated enantiomeric, diastereomeric and geometric isomers thereof, and mixtures thereof.

162. (Currently Amended) A compound of claim 160 having formula (X), or a solvate or pharmaceutically acceptable salt thereof:



wherein, ~~independently at each occurrence,~~

X is selected from -C(R₆,R₁₄)-Y-, and -C(R₁₃)=CH-;

Y is selected from a direct bond, O, and S;

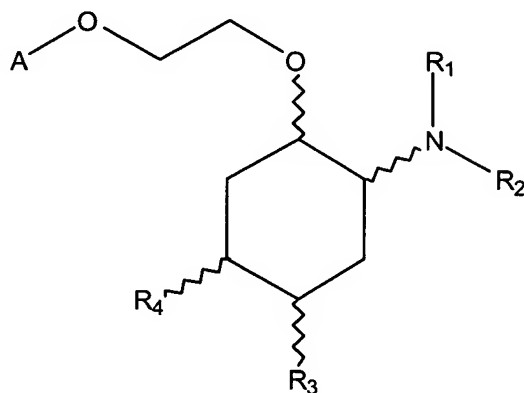
R₁, R₂, R₆ and R₁₄ are defined as in claim 160;

R₃ and R₄ are independently selected from hydrogen and C₁-C₆alkoxy; and

A is selected from C₅-C₁₂alkyl, C₃-C₈cycloalkyl, and any of formulae (III), (IV), (V), and (VI) as defined in claim 160, wherein Z, R₇, R₈, R₉, R₁₀, R₁₁ and R₁₂ are defined as in claim 160;

including isolated enantiomeric, diastereomeric and geometric isomers thereof, and mixtures thereof.

163. (Currently Amended) A compound of claim 160 having formula (XI), or a solvate or pharmaceutically acceptable salt thereof:



(XI)

wherein, ~~independently at each occurrence,~~

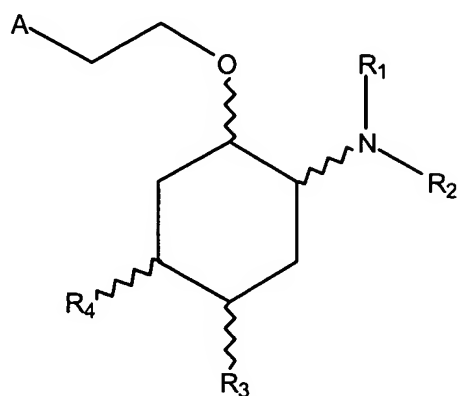
R₁ and R₂ are defined as in claim 160;

R₃ and R₄ are independently selected from hydrogen and methoxy; and

A is selected from C₅-C₁₂alkyl, C₃-C₈cycloalkyl, and any of formulae (III), (IV), (V), and (VI) as defined in claim 160, wherein Z, R₇, R₈, R₉, R₁₀, R₁₁ and R₁₂ are defined as in claim 160;

including isolated enantiomeric, diastereomeric and geometric isomers thereof, and mixtures thereof.

164. (Currently Amended) A compound of claim 160 having formula (XII), or a solvate or pharmaceutically acceptable salt thereof:



(XII)

wherein, ~~independently at each occurrence,~~

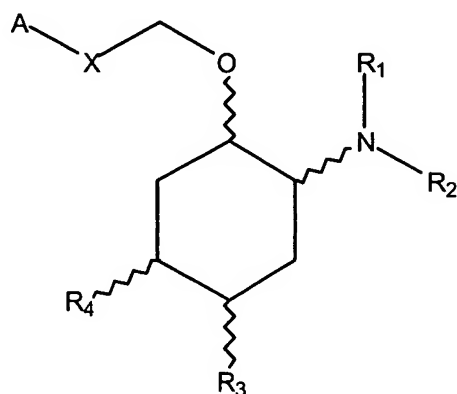
R₁ and R₂ are defined as in claim 160;

R₃ and R₄ are independently selected from hydrogen and methoxy; and

A is selected from C₅-C₁₂alkyl, C₃-C₈cycloalkyl, and any of formulae (III), (IV), (V) and (VI) as defined in claim 160, wherein Z, R₇, R₈, R₉, R₁₀, R₁₁ and R₁₂ are defined as in claim 160;

including isolated enantiomeric, diastereomeric and geometric isomers thereof, and mixtures thereof.

165. (Currently Amended) A compound of claim 160 having formula (XIII), or a solvate or pharmaceutically acceptable salt thereof:



(XIII)

wherein, independently at each occurrence,

X is selected from -C(R₆,R₁₄)-Y- and -CH=CH-;

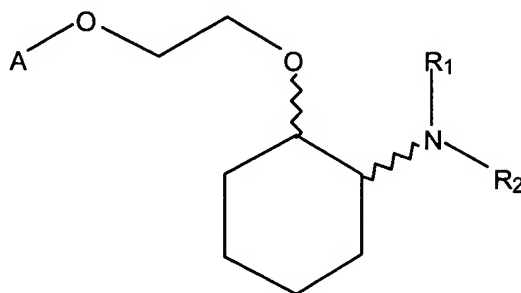
Y, R₁, R₂, R₆ and R₁₄ are defined as in claim 160;

R₃ and R₄ are independently selected from hydrogen and methoxy; and

A is selected from C₃-C₈cycloalkyl and any of formulae (III), (IV), (V), (VI), (VII) and (VIII) as defined in claim 160, where R₈ and R₉ are defined as in claim 160 49, R₇, R₁₀, R₁₁ and R₁₂ are hydrogen, and Z is selected from O, S and N-R₁₇ where R₁₇ is selected from hydrogen and methyl;

including isolated enantiomeric, diastereomeric and geometric isomers thereof, and mixtures thereof.

166. (Currently Amended) A compound of claim 160 having formula (XIV), or a solvate or pharmaceutically acceptable salt thereof:



(XIV)

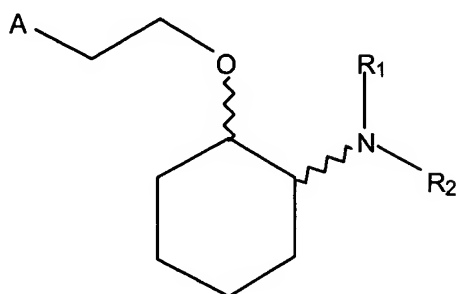
wherein, ~~independently at each occurrence,~~

R₁ and R₂ are defined as in claim 160; and

A is selected from any of formulae (III), (IV), (V) and (VI) as defined in claim 160, wherein R₇, R₁₀, R₁₁ and R₁₂ are hydrogen, R₈ and R₉ are independently selected from hydrogen, hydroxy, fluorine, chlorine, bromine, methanesulfonamido, methanoyloxy, methoxycarbonyl, nitro, sulfamyl, thiomethyl, trifluoromethyl, methyl, ethyl, methoxy, ethoxy and NH₂; and Z is selected from O and S;

including isolated enantiomeric, diastereomeric and geometric isomers thereof, and mixtures thereof.

167. (Currently Amended) A compound of claim 160 having formula (XV), or a solvate or pharmaceutically acceptable salt thereof:



(XV)

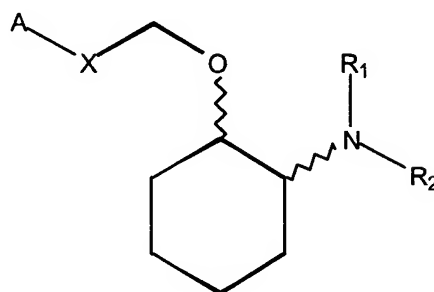
wherein, ~~independently at each occurrence;~~

R₁ and R₂ are defined as in claim 160; and

A is selected from any of formulae (III), (IV), (V) and (VI) as defined in claim 160, wherein R₇, R₁₀, R₁₁ and R₁₂ are hydrogen, R₈ and R₉ are independently selected from hydrogen, hydroxy, fluorine, chlorine, bromine, methanesulfonamido, methanoyloxy, methoxycarbonyl, nitro, sulfamyl, thiomethyl, trifluoromethyl, methyl, ethyl, methoxy, ethoxy and NH₂; and Z is selected from O and S;

including isolated enantiomeric, diastereomeric and geometric isomers thereof, and mixtures thereof.

168. (Currently Amended) A compound of claim 160 having formula (XVI), or a solvate or pharmaceutically acceptable salt thereof:



(XVI)

wherein, independently at each occurrence,

X is selected from *trans*-CH=CH-, -CH₂- and -CH₂-O-;

R₁ and R₂ taken together with the nitrogen atom to which they are attached form a ring selected from pyrrolidinyl, 2-ketopyrrolidinyl, 3-ketopyrrolidinyl, 2-acetoxypyrrolidinyl, 3-acetoxypyrrolidinyl, 2-hydroxypyrrolidinyl, 3-hydroxypyrrolidinyl, thiazolidinyl, piperidinyl, 2-ketopiperidinyl, 3-ketopiperidinyl, 4-ketopiperidinyl, acetylpiperazinyl, 1,4-dioxo-7-azaspiro[4.4]non-7-yl, hexahydroazepinyl, morpholinyl, N-methylpiperazinyl and 3-azabicyclo[3.2.2]nonanyl; and

A is selected from cyclohexyl, monochlorophenyl, 2,6-dichlorophenyl, 3,4-dichlorophenyl, 2-bromophenyl, 2,4-dibromophenyl, 3-bromophenyl, 4-bromophenyl, 3,4-dimethoxyphenyl, 1-naphthyl, 2-naphthyl, 3-benzo(b)thiophenyl, 4-benzo(b)thiophenyl, (2-trifluoromethyl)phenyl, 2,4-di(trifluoromethyl)phenyl, and (4-trifluoromethyl)phenyl;

including isolated enantiomeric, diastereomeric and geometric isomers thereof, and mixtures thereof.

169. (Currently Amended) A compound, or mixture comprising compounds, selected from the group consisting of:

(+)-*trans*-[2-(4-morpholinyl)-1-(2-naphthenethoxy)]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-(2-naphthenethoxy)]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-(1-naphthenethoxy)]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-(1-naphthenethoxy)]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-(4-bromophenethoxy)]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-(4-bromophenethoxy)]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-[2-(2-naphthoxy)ethoxy]]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-[2-(2-naphthoxy)ethoxy]]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-[2-(4-bromophenoxy)ethoxy]]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-[2-(4-bromophenoxy)ethoxy]]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-(3,4-dimethoxyphenethoxy)]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-(3,4-dimethoxyphenethoxy)]cyclohexane;
(+)-*trans*-[2-(1-pyrrolidinyl)-1-(1-naphthenethoxy)]cyclohexane;
(-)-*trans*-[2-(1-pyrrolidinyl)-1-(1-naphthenethoxy)]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-(2-(benzo[b]thiophen-3-yl)ethoxy)]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-(2-(benzo[b]thiophen-3-yl)ethoxy)]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-(2-(benzo[b]thiophen-4-yl)ethoxy)]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-(2-(benzo[b]thiophen-4-yl)ethoxy)]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-(3-bromophenethoxy)]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-(3-bromophenethoxy)]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-(2-bromophenethoxy)]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-(2-bromophenethoxy)]cyclohexane;
(+)-*trans*-[2-(4-morpholinyl)-1-(3-(3,4-dimethoxyphenyl)-1-propoxy)]cyclohexane;
(-)-*trans*-[2-(4-morpholinyl)-1-(3-(3,4-dimethoxyphenyl)-1-propoxy)]cyclohexane;
(1R,2R)/(1S,2S)-2-(4-morpholinyl)-1-(3,4-dichlorophenethoxy)cyclohexane;
(1R,2R)/(1S,2S)-2-(3-ketopyrrolidinyl)-1-(1-naphthenethoxy)cyclohexane;
(1R,2R)/(1S,2S)-2-(1-acetypiperazinyl)-1-(2-naphthenethoxy)cyclohexane;

~~(1R,2R)/(1S,2S)-2-(3-ketopyrrolidinyl)-1-(2,6-dichlorophenethoxy)cyclohexane;~~
~~(1R,2R)/(1S,2S)-2-[1,4-dioxo-7-azaspiro[4.4]non-7-yl]-1-(1-naphthenethoxy)cyclohexane;~~
(1R,2S)/(1S,2R)-2-(4-morpholinyl)-1-[(2-trifluoromethyl)phenethoxy]cyclohexane;
(1R,2R)/(1S,2S)-2-(3-ketopyrrolidinyl)-1-[3-(cyclohexyl)propoxy]cyclohexane;
(1R,2R)/(1S,2S)-2-(3-acetoxypyrrolidinyl)-1-(1-naphthenethoxy)cyclohexane;
(1R,2R)/(1S,2S)-2-(3-hydroxypyrrolidinyl)-1-(2,6-dichlorophenethoxy)cyclohexane;
(1R,2R)/(1S,2S)-2-(3-ketopyrrolidinyl)-1-(2,2-diphenylethoxy)cyclohexane;
(1R,2R)/(1S,2S)-2-(3-thiazolidinyl)-1-(2,6-dichlorophenethoxy)cyclohexane; and
(1R,2S)/(1S,2R)-2-(3-ketopyrrolidinyl)-1-(1-naphthenethoxy)cyclohexane; and
including isolated enantiomeric and diastereomeric isomers thereof, and mixtures thereof; and
pharmaceutically acceptable salts thereof.

170. (Previously Presented) A composition comprising a compound according to any one of claims 160-169 in combination with a pharmaceutically acceptable carrier, excipient or diluent.